Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Buoyancy and Buoyant Force

* \_\_\_\_\_\_\_\_\_\_\_ -The ability to \_\_\_\_\_\_\_\_\_\_
* Acts on a \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_ and other \_\_\_\_\_\_\_\_\_ exert an \_\_\_\_\_\_\_\_\_\_\_\_\_force
* Acts in the direction \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the \_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_so it makes an object feel \_\_\_\_\_\_\_\_\_\_\_\_\_

Gravity and Buoyant Force

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a submerged object is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_force.
* Object \_\_\_\_\_\_\_\_\_\_\_ if \_\_\_\_\_\_\_\_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_
* If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is equal to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ force the object will \_\_\_\_\_\_\_\_ either partly \_\_\_\_\_\_\_\_\_\_\_\_\_\_ or totally(depends on weight)
* \_\_\_\_\_\_\_\_\_\_\_\_ weight will float- like a jelly fish; \_\_\_\_\_\_\_\_\_\_ weight will sink

Archimedes’ Principle

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of ancient Greece
* States: the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ force acting on a \_\_\_\_\_\_\_\_\_\_\_\_\_ object is \_\_\_\_\_\_\_\_\_\_ to the \_\_\_\_\_\_\_\_ of the \_\_\_\_\_\_\_\_\_\_ the object \_\_\_\_\_\_\_\_\_\_\_\_\_
* For example: suppose your body displaces 50 liters of water in a swimming pool…The \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_exerted on you will be \_\_\_\_\_\_\_\_\_\_ to the weight of 50 liters of \_\_\_\_\_\_\_\_or about 500 N (newtons)

What is density?

* \_\_\_\_\_\_\_\_\_\_\_\_ is a comparison of how much \_\_\_\_\_\_\_\_\_\_ there is in a certain amount of \_\_\_\_\_\_\_\_\_\_\_.

Changing Density

* You can make an object \_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_ in a fluid by changing \_\_\_\_\_\_\_\_\_\_\_.
* Example: ice \_\_\_\_\_\_\_\_\_\_\_ when freezes and occupies more space then \_\_\_\_\_\_\_\_ water.
* Example: helium in a balloon which is less dense then air
* Density = mass OR \_\_\_\_\_\_\_\_\_ ÷ volume.

\_\_\_\_\_\_\_

* \_\_\_\_\_\_\_ for density: \_\_\_\_\_\_\_

cm3

Density problems-Together

* Frank has a paper clip. It has a mass of 9g and a volume of 3cm3. What is its density?
* John has an eraser. It has a mass of 3g, and a volume of 1cm3. What is its density?

Density problems-Individually

* Joe has a rock. The rock has a mass of 6g and a volume of 3cm3. What is the density of the rock?
* Jill has a gel pen. The gel pen has a mass of 8g and a volume of 2cm3. What is the density of the rock?
* Sally has a watch. It has a mass of 4g and a volume of 2cm3. What is the density of the watch?
* Mia has a wallet. It has a mass of 15g and a volume of 5cm3. What is the density of the wallet?

Liquid Layers

* If you pour \_\_\_\_\_\_\_\_\_\_\_together that don’t mix and have \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_, they will form liquid \_\_\_\_\_\_\_\_\_\_\_.
* The liquid with the \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ will be on the \_\_\_\_\_\_\_\_\_\_\_\_\_.
* The liquid with the \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ will be on the \_\_\_\_\_\_\_\_\_\_.

Answer these questions:

Liquid Layers-Slide 1

* Which layer has the highest density?
* Which layer has the lowest density?
* Imagine that the liquids have the following densities:
  + 10g/cm3. 3g/cm3.
  + 6g/cm3. 5g/cm3.
* Which number would go with which layer?

Liquid Layers-Slide 2

* Which liquid has the highest density?
* Which liquid has the lowest density?
* Which liquid has the middle density?

Liquid Layers-Slide 3

* Imagine that the liquids on the right have the following densities:
  + 15g/cm3 10g/cm3
  + 3g/cm3 9g/cm3
  + 7g/cm3 12g/cm3
* Match the colors to the correct densities.

Review

Answer the following:

* What is the formula for density?
* What happens if you pour together liquids that have different densities?
* Will the liquid on the top have the highest or lowest density?
* Will the liquid on the bottom have the highest or lowest density?

Write an 8 sentence summary: